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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/528,249	09/30/2005	Joseph Jerome Leibenguth	09669/055001	2510

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EXAMINER

ZARNEKE, DAVID A

ART UNIT	PAPER NUMBER
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2891

NOTIFICATION DATE	DELIVERY MODE
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03/18/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/528,249	Applicant(s) LEIBENGUTH ET AL.	
	Examiner David A. Zarneke	Art Unit 2891	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/17/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3, 5, 7, 11, and 12 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Bonvalot et al., US 5,576,991.

Bonvalot (figure 1) teaches a method of manufacturing a wafer assembly comprising a chip wafer [2] onto which a cover wafer [3] is deposited, the chip wafer comprising an active face [4] and an inactive face (side opposite side [4]), the active face comprising chip elements [5], the cover wafer being provided with a chip-element-receiving cavity located above a chip element, the method comprising the following steps:

a cover-wafer-depositing step, in which a the cover wafer is deposited on the active face so as to obtain a wafer assembly, the cover wafer being provided with a plurality of chip-receiving cavities [8], a chip-receiving cavity being located above a chip element, the cover wafer being made of an organic material (3, 25+); and

a wafer assembly thinning step, in which the inactive face of the chip wafer is thinned (5, 41+).

Regarding claim 2, Bonvalot teaches the method further comprises a chip-fixing step, in which a chip is fixed in a chip-receiving cavity (figure 1).

With respect to claims 3 and 5, Bonvalot teaches the cover wafer is made of a photosensitive material (3, 25+:wherein polyimide is photosensitive).

As to claim 7, Bonvalot teaches the method further comprises a wafer-assembly-cutting step, in which the wafer assembly is cut so as to obtain a plurality of chip assembly, a chip assembly comprising the chip element onto which a chip is fixed (5, 41+).

In re claim 11, Bonvalot (figure 1) teaches a method of manufacturing a portable device comprising a support layer provided with a cavity, the method comprising:

a cover-wafer-depositing step, in which a cover wafer [3] is deposited on an active face [4] so as to obtain a wafer assembly, the cover wafer being provided with a plurality of chip-receiving cavities [8], a chip-receiving cavity being located above a chip element, the cover wafer being made of an organic material (3, 25+);

a wafer assembly thinning step, in which an inactive face of the chip wafer is thinned (5, 41+);

a chip-fixing step, in which a chip is fixed in a chip-receiving cavity (figure 1);

a wafer-assembly-cutting step, in which the wafer assembly is cut so as to obtain a plurality of chip assembly, a chip assembly comprising the chip element onto which a chip is fixed (5, 41+); and

a chip-assembly-fixing step, in which the chip assembly is fixed in the cavity (figure 1).

Regarding claim 12, Bonvalot (figure 1) teaches a chip assembly comprising:

a chip wafer [2] onto which a cover wafer [3] is deposited, wherein the chip wafer comprises an active face [4] and an inactive face, and wherein the active face comprises a plurality of chip elements;

a wafer assembly obtained when the cover wafer is deposited on the active face, wherein the wafer assembly is configured to be cut so as to obtain a plurality of chip assembly (5, 41+), the chip assembly comprising at least one of the plurality of chip elements onto which a chip is fixed; and

a chip-element-receiving cavity [8] located above at least one of the plurality of chip elements on the cover wafer, wherein the cover wafer is provided with a plurality of

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chip-receiving cavities, wherein a chip-receiving cavity is located above at least one of the chip elements, wherein the cover wafer is made of an organic material (3, 25+), wherein the inactive face of the chip wafer is thinned (5, 41+), and wherein the chip is fixed in the chip-receiving cavity.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 4, and 6-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bonvalot et al., US 5,576,991, as applied to claim 1 above.

With respect to claims 4 and 6, while Bonvalot fails to teach the photosensitive material comprises Benzo cyclo Butene (BCB) (claim 4) or an epoxy-based material (claim 6), it would have been obvious to one of ordinary skill in the art at the time of the invention to use either BCB or an epoxy-based material in the invention of Bonvalot

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because they both are known equivalent materials used as photosensitive materials, in place of polyimide. The substitution of one known equivalent technique for another may be obvious even if the prior art does not expressly suggest the substitution (Ex parte Novak 16 USPQ 2d 2041 (BPAI 1989); In re Mostovych 144 USPQ 38 (CCPA 1964); In re Leshin 125 USPQ 416 (CCPA 1960); Graver Tank & Manufacturing Co. V. Linde Air Products Co. 85 USPQ 328 (USSC 1950).

As to claims 8-10, while Bonvalot fails to teach the chip element is a GSM chips (claim 8), or a RF chip (claim 9), or a DPA chip (claim 10), the use of conventional materials to perform their known functions is obvious (MPEP 2144.07).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David A. Zarneke whose telephone number is (571)-272-1937. The examiner can normally be reached on M-Th 7:30 AM-6 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Baumeister can be reached on (571)-272-1722. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David A. Zarneke/
Primary Examiner, Art Unit 2891
3/6/08